AMENDMENTS TO THE SPECIFICATION:

Please amend paragraphs 17, 21 and 32 of the specification as follows:

[0017] In one embodiment of the invention, a body of molten aluminum is grain refined by providing in the body a controlled level of a titanium alloy which forms small, discrete titanium compounds such as TiB_2 that provide nucleation sites for grain refining aluminum. It will also be appreciated that in order for the titanium to function as a refiner, a material or compound, which first reacts with the titanium and/or the aluminum to form a titanium based grain refiner nuclei, is required. For purposes of the invention, so called reducible binary or titanium reactive ~~material~~ materials may be added separately to the melt or can be included with the titanium as in the form of a metal alloy.

[0021] The ladle 50 then next moves into position to receive the titanium alloy 60. Multiple titanium alloys are known and present in the art and may be used in a manner described herein. Even though the invention has been described particularly with respect to titanium alloys, it will be appreciated that other metals are contemplated within the scope of the invention, including but not limited to ~~niobiumin~~ niobium, tantalum, vanadium, molybdenum, zirconium and beryllium. In some embodiments, the titanium boron (TiB) alloy is preferable.

[0032] The presence of the grain refiner provides greater nucleating events than in its absence. This has the desirable effect of generating multiple Al particles that are smaller in size (width and length), but also generally uniformly distributed through out the alloy. The even distribution of the Al particles from the center of the cast product, as best seen in FIG. 3, allows for better prediction of mechanical properties with less likelihood of mechanical failure which in effect limit the average growth of the Al particles and diminished the likelihood of globular aggregates. Therefore, preferable characteristics of SSM cast alloys can be attained by

controlling the temperatures of the solutions and the addition of grain refiners during casting. With regard to controlling the temperature, the difference in temperature between the Al-Si hypoeutectic alloy and the TiB-Al alloy may be chosen to achieve a determined rate of cooling which may allow control of primary Al particle size in the final cast product. That is, by mixing a predetermined amount of a relatively low temperature Al-Si hypoeutectic alloy at about 600°C to about 700°C with a predetermined amount of a relatively high temperature TiB-Al alloy at about 1135°C, a rapid, controlled, and reproducible temperature drop in the TiB-Al alloy is achieved. As discussed herein, this rapid temperature drop generally results in greater nucleating events than if the temperature is dropped gradually. In this manner, a cast product is generated having a more favorable grain structure than cast products utilizing conventional techniques.